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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,873	04/20/2004	Eddy Ying Yin Ho	IR-2458 (2-3615)	5615

2352 7590 06/10/2005

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NEW YORK, NY 100368403

EXAMINER

DAVIS, OCTAVIA L

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/828,873	<b>Applicant(s)</b> HO, EDDY YING YIN	
	<b>Examiner</b> Octavia Davis	<b>Art Unit</b> 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 5/5/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/5/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3 – 19 and 21 – 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Veltman.

Regarding claims 1 and 19, Veltman discloses a method for the sensorless estimation of the relative position between the stator and the rotor of a three-phase synchronous motor comprising steps of estimating a rotor angle (See Col. 5, lines 36 – 50 and Col. 6, lines 36 – 40 and 62 – 64), correcting the estimated rotor angle on the basis of reactive power input to the motor (See Col. 6, lines 42 - 47) and estimating the rotor angle during motor start-up according to a predetermined motor load model in conjunction with a start-up sequencer 8, 9, 10

Regarding claims 3, 11, 21 and 29, the load model is representative of a motor acceleration torque (See Col. 6, lines 13 – 15).

Regarding claims 4, 12, 22 and 30, the load model is representative of current feedback (See Col. 6, lines 60 – 64).

Regarding claims 5, 13, 23 and 31, the load model is representative of friction torque (See Col. 5, lines 1 – 16).

Regarding claims 6, 14, 24 and 32, the load model is representative of motor frequency (See Col. 6, lines 55 – 59).

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Regarding claims 7, 8, 15, 16, 25, 26, 33 and 34, the estimation is terminated at an adjustable percentage of rated motor frequency (See Col. 11, lines 45 – 49).

Regarding claims 9, 17, 27 and 35, the estimated is carried out in open-loop mode and terminates at a transition from open-loop mode to closed-loop mode (See Col. 9, lines 51 – 60).

Regarding claims 10, 18, 28, 36, 38, 40, 42 and 44, the estimation step includes the step of correcting phase errors caused by said integration via a PLL circuit with phase compensation (See Col. 5, lines 50 – 55 and Col. 6, lines 20 – 27 and 42 – 53).

Regarding claims 37, 39, 41 and 43, said correcting step is performed by calculating a first reactive power input value  $L_{est}$  and a second reactive power input value  $R_{est}$ , determining a relation between said first and second reactive power input values and applying said relation to the rotor angle estimated in the estimating step to obtain the corrected rotor angle (See Col. 2, lines 5 – 7, Col. 6, lines 21 – 27 and 65 – 67, Col 7., lines 58 – 60 and Col. 9, lines 51 – 58).

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ho (6,856,109) disclose an efficiency optimization control for a permanent magnet motor drive.

### ***Response to Arguments***

4. Applicant's arguments with respect to these claims have been considered but are moot in view of the new grounds of rejection.

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5. Any inquiry concerning this communication should be directed to examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application where this application or proceeding is assigned is (703) 872 - 9306.

A handwritten signature, possibly reading 'DD', in dark ink.

OD/2855

6/6/05